



UMAR AMJID

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PROFILE

An assiduous, dedicated, and focused researcher with *expertise in laboratory management and scientific research methodologies*, with more than three years of research experience including both wet-laboratory and computational frameworks. Skilled in interpersonal communication and personal engagement approaches. *Displaying sound knowledge of biotechnology concepts and a demonstrative skillset of molecular biology techniques in proteomics and genomics*. Additionally, an expert in *Big biological data analysis, virtual screening, molecular modelling, molecular drug designing and other computational structural biology techniques*.

EDUCATION

National University of Science and Technology (NUST), Main Campus Islamabad 2020 – 2022
Master of Science., Bioinformatics
CGPA: 3.63/4

COMSATS University Islamabad, Abbottabad Campus Fall 2016 – 2020
Bachelor of Science., Biotechnology
CGPA: 3.27/4

JOURNAL PUBLICATIONS

Photoperiodic Stress Induces Genotype-Specific Shift in DNA Methylation in Tartary Buckwheat 2019
Biologia Futura

Saad, M., Mary, H., **Amjid, U.**, Shabir, G., Aslam, K., Shah, S. M., & Khan, A. R. (2019). Photoperiodic stress induces a genotype-specific shift in DNA methylation in Tartary buckwheat. *Biologia Futura*, 70(4), 278-285

RESEARCH EXPERIENCE

CDD Laboratory, SINES, National University of Sciences and Technology (NUST) 2021 – Present
Graduate Researcher

Working in the Computational drug design (CDD) lab that is focused on screening potential drug candidates for potential cardiovascular and neurological diseases using computational drug design approaches.

Project Title

Modulation of Mitochondrial Calcium Uniporter (MCU) Mediated Reactive Oxygen Species (ROS) in Neurodegenerative Disorders.

The excess of Reactive Oxygen Species (ROS) in the body acts as a toxic chemical that puts cells into oxidative stress. In neurodegenerative disorders, the excessive uptake of calcium through calcium-specific MCU channels in mitochondria leads to excessive ROS production that results in mitochondrial dysfunction and neurodegeneration ultimately. Due to the unavailability of potential drugs for ROS-mediated neurodegeneration, this project aims to screen potential drug candidates for the modulation of the activity of the MCU channel, which is a major player in calcium homeostasis through the design of novel inhibitory molecules using fragment-based drug designing techniques.

Responsibilities

My responsibilities include **Literature Search, Project Methodology Design, Application of Computational Drug Designing Approaches including MD Simulations, Molecular Docking, Fragment-Based Drug Design Techniques, Pharmacophore Modelling and Molecular Optimization, Next Generation Sequence Analysis, Microarray Analysis, Super-Computing, Report Writing and Scientific Presentation.**

ECIRL, COMSATS University Islamabad, Abbottabad Campus

2018 – 2020

Research Internee

Worked as a research internee at the HEC-funded Epigenetics and Crop Improvement Research Laboratory (ECIRL), where the research is focused on epigenetic modifications against biotic and abiotic stresses and their role in crop improvements.

Responsibilities

As a research internee, my responsibilities included **lab management, research designing, fieldwork, sample collection, molecular analysis, bioassays, report writing and supervision of junior researchers.**

SKILLSET

Wet Laboratory Skills.

Sampling, Storing, Cryopreserving, Labelling, Mouse Model Development, DNA/RNA Extraction, Protein Extraction, DNA/RNA Quantification, Microbial Cultures (Agar & Broth), Antibiotic Resistance Culture, PCR, RT-PCR, qRT-PCR, Agarose Gel Electrophoresis, Western Blotting, PAGE, SDS-PAGE, Bacterial Transformation. Recombinant DNA Techniques, MSAP Bioassays and Plant Tissue Cultures.

Computational Skills

Molecular Docking, Molecular Dynamic Simulations (NAMD, Schrodinger, Gromacs), Pharmacophore Modeling, Homology Modeling, Big Data Analysis, Machine Learning-Based Model Development, NGS Data Analysis, Microarray Analysis and Gene Enrichment Analysis.

Softwares.

Microsoft Office, Minitab, SPSS, R Studio, PyCharm, Weka Pymol, Chimera, Discovery Studio, Modeller, Molecular Operating Environment (MOE), LigandScout, Auto-Dock Vina, Cytoscape, MEGA 11, ChemDraw, Gaussian, Pentacle, NAMD, VMD, Desmond, and Gromacs.

I can operate both **Windows** and **Linux** Operating Systems

Programming Languages.

Python, and R

SCHOLARSHIPS AND AWARDS

Need-Based Scholarship

Fall 2020 – 2022

Awarded by the National University of Science and Technology

Value: 50% Tuition Fee Waiver

Shining Star Merit Scholarship

Fall 2016 – 2020

Awarded by COMSATS University Islamabad

Value: 75% Tuition Fee Waiver

Award of Laptop

2018

Awarded by Prime Minister Laptop Scheme HEC, Pakistan

Value: 7th Generation Haier Laptop

SOCIAL MEDIA PROFILES

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REFERENCES

Dr Ishrat Jabeen

Professor, SINES, NUST

Specialization: Medicinal Chemistry

Email: Ishrat.jabeen@sines.nust.edu.pk

Dr Yusra Sajid Kiani

Assistant Professor, SINES, NUST

Specialization: Bioinformatics and Computational Drug Design

Email: yusra.sajid@sines.nust.edu.pk

Dr Abdul Rehman

Assistant Professor/ DOO, COMSATS University Islamabad

Specialization: Plant genetics, Epigenetics and Genetic resource management

Email: arehman@cuiatd.edu.pk